

ABSTRACT OF THE DISCLOSURE

A laser array imaging lens formed of a single lens component with or without a stop on the image side of the single lens component is disclosed. At least one surface of the single lens component is an anamorphic, aspheric surface. A diffractive optical element that is defined by a phase function may be provided, either superimposed on the anamorphic, aspheric surface or formed on another surface of the single lens component. Preferably, the following condition is satisfied:

$$0.5 < L / (D_2 \cdot (1 - 1/M)) < 2.0$$

where

L is the on-axis distance from the laser array light source to the light-source-side of the laser array imaging lens;

D₂ is the on axis distance from the image-side surface of the laser array imaging lens to the position where the centers of the beams from the laser elements of the laser array light source intersect one another; and

M is the image magnification.